3. (Amended) A method of identifying a compound that modulates JNK3 activity, the method comprising:

incubating a cell that has JNK3 activity with a compound under conditions and for a time sufficient for the cell to express JNK3 activity absent the compound, wherein the compound is a peptidomimetic, a small organic molecule, or a small inorganic molecule;

incubating a control cell under the same conditions and for the same time absent the compound;

measuring JNK3 activity in the cell in the presence of the compound;

measuring JNK3 activity in the control cell; and

comparing the amount of JNK3 activity in the presence and absence of the compound wherein a difference in the level of activity indicates that the compound modulates JNK3 activity.

5. (Amended) A method of identifying a compound that modulates the binding of a JNK3 polypeptide to a substrate, the method comprising comparing the amount of a JNK3 polypeptide bound to a substrate in the presence and absence of a selected compound, wherein the compound is a peptide, a peptidomimetic, a small organic molecule, or a small inorganic molecule, wherein a difference in the amount of binding of a JNK3 polypeptide to a substrate indicates that the selected compound modulates the binding of a JNK3 polypeptide.

Add new claims 18 to 47 as follows.

--18. The method of claim 1, wherein the compound is a soluble peptide.

19. The method of claim 1, wherein the compound is a phosphopeptide.

20. The method of claim 3, wherein the compound is a peptidomimetic.

21. The method of claim 5, wherein the compound is a soluble peptide.

22. The method of claim 5, wherein the compound is a phosphopeptide.

23. A method of identifying a compound that modulates JNK3 expression, the method comprising:

incubating a cell that can express a JNK3 protein with a compound under conditions and for a time sufficient for the cell to express a JNK3 protein absent the compound;

incubating a control cell under the same conditions and for the same time absent the compound;

measuring JNK3 expression in the cell in the presence of the compound;

measuring JNK3 expression in the control cell;

comparing the amount of JNK3 expression in the presence and absence of the compound;

selecting the compound if there is a difference in the level of expression in the presence and absence of the compound; and

administering the selected compound to an animal model of an excitotoxic disorder and assaying the animal for excitotoxicity,

wherein a decrease in excitotoxicity in the animal indicates that the compound modulates JNK3 expression.

24. The method of claim 23, wherein the compound decreases the expression of JNK3.

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25. The method of claim 23, wherein the animal model is a mouse model.

26. The method of claim 23, wherein the excitotoxic disorder is kainic acid-induced or pentetrazole-induced.

27. A method of identifying a compound that modulates JNK3 activity, the method comprising:

incubating a cell that exhibits JNK3 activity with a compound under conditions and for a time sufficient for the cell to exhibit JNK3 activity absent the compound;

incubating a control cell under the same conditions and for the same time absent the compound;

measuring JNK3 activity in the cell in the presence of the compound;

measuring JNK3 activity in the control cell;

comparing the amount of JNK3 activity in the presence and absence of the compound;

selecting the compound if there is a difference in the level of activity in the presence and absence of the compound; and

administering the selected compound to an animal model of an excitotoxic disorder and assaying the animal for excitotoxicity, wherein a decrease in excitoxicity in the animal indicates that the compound modulates JNK3 activity.

28. The method of claim 27, wherein the animal model is a mouse model.

29. The method of claim 27, wherein the excitotoxic disorder is kainic acid-induced or pentetrazole-induced.

30. The method of claim 27, wherein the compound decreases JNK3 activity.

31. The method of claim 27, wherein the compound is a peptide, a peptidomimetic, a small organic molecule, a small inorganic molecule, or an oligonucleotide.

32. A method of identifying a compound that modulates the binding of a JNK3 polypeptide to a substrate, the method comprising:

comparing the amount of a JNK3 polypeptide bound to a substrate in the presence and absence of a compound;

selecting the compound if there is a difference in the amount of JNK3 polypeptide bound to the substrate in the presence and absence of the compound; and

administering the selected compound to an animal model of an excitotoxic disorder and assaying the animal for excitotoxicity,

wherein a decrease in excitotoxicity in the animal indicates that the selected compound modulates the binding of a JNK3 polypeptide to the substrate.

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33. The method of claim 32, wherein the animal model is a mouse model.

34. The method of claim 32, wherein the excitotoxic disorder is kainic acid-induced or pentetrazole-induced.

35. The method of claim 32, wherein the binding of a JNK3 polypeptide to a substrate is decreased.

36. The method of claim 32, wherein the compound is a peptide, a peptidomimetic, a small organic molecule, a small inorganic molecule, or an oligonucleotide.

37. A method of identifying a compound that modulates JNK3- mediated excitotoxicity, the method comprising

administering a test compound to an animal model of an excitotoxic disorder; and

assaying the animal for excitotoxic effects, wherein a decrease in excitotoxic effects in the presence of the test compound compared to an untreated control indicates that the compound modulates JNK3 excitotoxicity.

38. The method of claim 37, wherein the animal model is a mouse model.

39. The method of claim 37, wherein the excitotoxic disorder is kainic acid-induced or pentetrazole-induced.

40. The method of claim 37, wherein the compound is a peptide, a peptidomimetic, a small organic molecule, a small inorganic molecule, or an oligonucleotide.

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41. A method of identifying a compound that inhibits JNK3 phosphorylation of a substrate, the method comprising comparing the phosphorylation of a JNK3 substrate in the presence and absence of a selected compound, wherein a decrease in the phosphorylation of the JNK3 substrate indicates that the selected compound inhibits JNK3 phosphorylation of the substrate.

42. The method of claim 41, wherein the JNK3 substrate is c-Jun.

43. The method of claim 41, wherein the JNK3 and the substrate are in a cell.

44. The method of claim 41, wherein the JNK3 and the substrate are in solution.

45. The method of claim 41, wherein the compound is a peptide, a peptidomimetic, a small organic molecule, or a small inorganic molecule.

46. A method of identifying a compound that inhibits phosphorylation of a JNK3 substrate, the method comprising:

comparing the amount of a JNK3 substrate phosphorylated in the presence and absence of a compound;

selecting the compound if there is a decrease in the amount of JNK3 substrate phosphorylation in the presence compared to the absence of the compound; and

administering the selected compound to an animal model of an excitotoxic disorder and assaying the animal for excitotoxicity,

wherein a decrease in excitotoxicity in the animal indicates that the selected compound inhibits the phosphorylation of a JNK3 substrate.

47. The method of claim 46, wherein the JNK3 substrate is c-Jun.